On the Scattering Mechanism of Carriers in Some Solid   67383
Solutions on the Basis of Lead- and Bismuth Tellurides   SOV/181-1-9-1/31

time is by way of approximation inversely proportional to
temperature, which is in contradiction with the theory. It is
explained by the fact that triple collisions (electron -
impurity atom - phonon) may occur in a lattice containing
impurities. Theoretical investigations were conducted by
T. A. Kontarova. There are 19 figures and 4 Soviet references.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of
               Semiconductors of the AS USSR, Leningrad)

SUBMITTED: May 19, 1959

Card 4/4

VINOGRADOVA, M.N.; GOLIKOVA, O.A.; YEFIMOVA, B.A.; KUTASOV, V.A.; STAVITSKAYA, T.S.; STIL'BANS, L.S.; SYSOYEVA, L.M.

Scattering mechanism of carriers in some semimetals. Fiz. tver. tela 1 no.9:1333-1344 S '59.   (MIRA 13:3)

1.Institut poluprovodnikov AN SSSR, Leningrad.
              (Electrons--Scattering) (Semiconductors)

28093
S/181/61/003/009/027/039
B104/B102

24,7600 (1043,1160,1537)

AUTHORS: Yefimova, B. A., Korenblit, I. Ya., Novikov, V. I., and
             Ostroumov, A. G.

TITLE: Anisotropy of galvanomagnetic properties of p-type Bi_2Te_3

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2746-2760

TEXT: The galvanomagnetic effects of p-type bismuth telluride have been
studied between 4-290°K. This material is well suited for the production
of thermocouples. The results were analyzed using the model suggested by
J. R. Drabble et al. (Refs. 1-4, 17, see below). The single crystals were
grown by Chokhral'skiy's method and that of G. I. Shmelev and S. V.
Ayrapetyants (FTT, II, 4, 1960). Two types of samples have been used; the
third-order axis of one sample coincided with its longitudinal axis and the
third-order axis of the other was vertical to its longitudinal axis. The
electrical conductivity σ_{ij}, the Hall coefficient Q_{ijk}, and the reluctance
Q_{ijkl} were measured by a d-c compensation method in a constant magnetic
field. The temperature of the samples was measured with copper-constantan

Card 1/4

Anisotropy of galvanomagnetic ...

28093
S/181/61/003/009/027/039
B104/B102

thermocouples. Their sensitivity at helium temperature was 4-5 $\mu v/^\circ K$ and at room temperature 40 $\mu v/^\circ K$. Measurements and results are discussed in detail. The galvanomagnetic properties of p-type Bi_2Te_3 indicate that the model suggested by Drabble et al. for the isoenergetic surfaces is correct between 4 and 290°K. In the range where only one scattering mechanism of the carriers predominates (scattering from acoustic phonons or impurities), the tensor of the relaxation time can be written as $\tau_{ij} = a_{ij}\varphi(\mathcal{E})$. The coefficients a_{ij} are functions of temperature. For the whole temperature interval it can be assumed that $\tau_{13} \approx 0$. The anomaly of the Hall effect is caused by the change of a_{ij} when the scattering of the carriers by acoustic phonons changes over to scattering by impurities. The temperature dependences of the carrier mobility μ_0, which have been determined from the "isotropic" electrical conductivity and the "isotropic" magnetic conductivity, are in agreement. At room temperature $u_0 \sim T^{-1.7}$; at lower temperatures, the slope of the straight line $\ln u_0 = f(\log T)$ decreases considerably. The changes of the anisotropy parameters $w_1 = m_2\tau_{11}/m_1\tau_{22}$ and $w_2 = m_2\tau_{33}/m_3\tau_{22}$ are explained by the transition of scattering from

Card 2/4

28093
S/181/61/003/003/027/039
B104/B102

Anisotropy of galvanomagnetic ...

phonons to scattering from impurities. The temperature dependence of the anisotropy parameters confirms that the model is valid for all tempera-tures. An estimation of the anisotropy of the relaxation time for scattering from impurities shows that it is not very large. This fact is explained by the lack of anisotropy in the thermo-emf for mixed scattering. The galvanomagnetic coefficients of p-type Bi_2Te_3 can be calculated by using empirical parameters and equations published by I. Ya. Korenblit, in FTT, II, 12, 3083, 1960. Two variants of the energy spectrum are determined therefrom. The test results obtained are not sufficient to decide which is the correct variant. The authors thank A. G. Samoylovich, L. S. Stil'bans, and S. S. Shalyt for interest and advice. There are 10 figures, 2 tables, and 22 references: 8 Soviet and 14 non-Soviet. The five most important references to English-language publications read as follows: J. R. Drabble et al., Ref. 1: Proc. Phys. Soc., 69, 1101, 1956; Ref. 2: Proc. Phys. Soc., 71, 3, 1958; Ref. 3: Proc. Phys. Soc., 72, 380, 1958; Ref. 4: J. Phys. Chem. Soc., 8, 428, 1959; Ref. 17: J. Electr. a. Contr., 3, 3, 1957.

Card 3/4

Anisotropy of galvanomagnetic ...

28093
S/181/61/003/009/027/039
B104/B102

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of
               Semiconductors, AS USSR, Leningrad)

SUBMITTED: April 29, 1961

Card 4/4

S/181/62/004/001/024/052
B108/B104

9.4174 (1043,1482,1114)

AUTHORS: Yefimova, B. A., Kel'man, Ye. V., and Stil'bans, L. S.

TITLE: Mechanism of scattering from impurity ions in Bi_2Te_3

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 152 - 156

TEXT: The temperature dependences of the electron and hole mobilities of polycrystalline Bi_2Te_3 (n- and p-type) were measured at 80 - 600°K. The different carrier concentrations at which the measurements were made were attained by adding Pb (p-type) and/or CuBr (n-type). In evaluating the mobility data it was assumed that the mobility related to scattering from impurity ions is independent of temperature and of the mean carrier energy. Moreover, it was assumed that $1/u_{exp} = 1/u_{therm} + 1/u_{ion}$, where u_{therm} is the mobility with scattering from thermal lattice vibrations, u_{ion} is the mobility with scattering from impurities. The effect of scattering from impurities on the thermo-emf is less than 10 - 12%. It was therefore possible to calculate the levels of the chemical potential from the thermo-

Card 1/3

33353
S/181/62/004/001/024/052
B108/B104

Mechanism of scattering from...

emf. The electron and hole mobilities in the case of scattering from the thermal lattice vibrations are proportional to $T^{-1.78}$ and $T^{-2.12}$, respectively. Experiments as well as calculations were proof of the correctness of the law $1 \sim \sqrt{\varepsilon}$ (1 - carrier free path) (M. N. Vinogradova et al., FTT, 1, 9, 1333, 1959). This law accounts for screening of the charge of the impurity ions owing to high dielectric constant and high carrier concentration. The experimental and calculated cross sections S of scattering from impurity ions agree well with each other ($S_{exp} \sim 2.10^{-15}$ cm^2,

$S_{th} = 3.10^{-15}$ cm^2), corresponding to an "ion radius" of about 3 Å. There are 4 figures, 1 table, and 7 references: 2 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: H. Brooks, C. Herring. Phys. Rev., 83, 879, 1951; K. Hashimoto. Mem. Fac Science, Kynsyn University, ser. B, 2, 5, 165, 1958; I. G. Austin. Proc. Phys. Soc., 72, 545, 1956; N. Sclar. Phys. Rev., 104, 1548, 1956.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of
              Semiconductors AS USSR, Leningrad)

Card 2/3

Mechanism of scattering from...

33353
S/181/62/004/001/024/052
B108/B104

SUBMITTED: July 15, 1961

Card 3/3

33344
S/181/62/004/001/052/052
B112/B138

$24.7600 (1043, 1055, 1164, 1385)$

AUTHORS: Yefimova, B. A., Novikov, V. I., and Ostroumov, A. G.

TITLE: Anisotropy of the galvanomagnetic properties of n-type
Bi_2Te_3

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 302 - 304

TEXT: Drabble and Wolfe have suggested a six-ellipsoid model to describe the
shape of the conduction and valence bands of Bi_2Te_3. The results of the
present investigation support this model: The anisotropy of electrical
conductivity σ_{11}/σ_{33} measured at 77 and $290^{\circ}K$ was almost the same as that
resulting from this model. Longitudinal magnetic resistance $(\rho_{3333}/\rho_{3311}$
$= 1.1)$ is nonvanishing only if the axis of revolution of the isoenergetic
ellipsoids coincides with a symmetry axis $\Theta \neq 0$. The strong dependence of
the galvanomagnetic coefficients on magnetic field strength, suggests that
in n-type Bi_2Te_3 electron mobility is much greater than hole mobility. This
is in agreement with the 6-ellipsoid, but not with the isotropic,   model;
Card 1/3

Anisotropy of the galvanomagnetic...

333!4
S/181/62/004/001/052/052
B112/B138

in the range 77 - 290°K the angles of revolution of the ellipsoids remain constant. The specimens studied were cut parallel and perpendicularly to the third order symmetry axis. The parameters of the energy spectra of the conduction and valence bands (w_1, w_2, $\cos^2\theta$) are similar for n- and p-type specimens of similar carrier concentration. w_1 and w_2 depend both on

effective-mass anisotropy and the components of the relaxation time tensor. From the coincidence of these parameters for p- and n-type it may be concluded that the conduction and valence bands not only have very similar isoenergetic surfaces but that anisotropy in electron and hole scattering is almost the same. The dependence of the anisotropy parameters on temperature and carrier concentration can also be taken as similar for both types. It is also probable that the parameters obtained so far for n-type Bi_2Te_3

contain a factor which depends on impurity scattering anisotropy, and the effective mass ratios calculated from them contain some inaccuracy. There are 1 table and 7 references: 3 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: J. B. Drabble et al. Proc. Phys. Soc. B 71, 430, 1958; J. B. Drabble. Proc. Phys. Soc. B 72, 380, 1958; J. B. Drabble, R. Wolfe. Proc. Phys. Soc. B 69, 1101, 1956; Card 2/3

Anisotropy of the galvanomagnetic...

33344
S/181/62/004/001/052/052
B112/B138

J. B. Drabble. J. Phys. a. Chem. Sol. <u>8</u>, 428, 1959.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semi-
conductors AS USSR, Leningrad)

SUBMITTED: October 11, 1961

Card 3/3

YEFIMOVA, B. A.

Dissertation defended for the degree of Candidate of Physicomathematical
Sciences at the Technical Physics Institute imeni A. F. Ioffe in 1962:

"Investigation of Electrical and Thermoelectrical Properties of Bismuth
Charcogenides and solid Solutions Based on Same."

Vest. Akad. Nauk SSSR.   No. 4, Moscow, 1963, pages 119-145

L 38540-65   EPR/EWG(c)/EWA(c)/EWT(1)/EWT(m)/EWG(m)/EWP(b)/T/EWA(d)/EWP(w)
Ps-4/Pz-6   IJP(c)   RDW/AT/JD   8/0181/65/007/002/0424/0431
ACCESSION NR: AP5005277

AUTHOR: Yefimova, B. A.; Kolomoyets, L. A.

TITLE: Thermoelectric properties of solid solutions of PbTe-SnTe

SOURCE: Fizika tverdogo tela, v. 7, no. 2, 1965, 424-431

TOPIC TAGS: lead telluride, tin telluride, thermoelectric property, carrier
density, Hall coefficient, thermal emf, electric conductivity, carrier mobility

ABSTRACT: The authors examine the character of variation of the valence band
during the transition from PbTe to SnTe by investigating the thermoelectric pro-
perties of metallic solid solutions of these substances with p-
type conductivity. The tests were made on samples produced by a powder metallur-
gy technique and checked against samples obtained by zone equalization. The for-
mation of the solid solution was checked by metallographic analysis, and the
homogeneity of the samples with respect to the carrier density was monitored with
a thermal probe. The purity of the initial materials was ~99.98%. The carrier
density was varied, by doping, in the range from 3×10^{18} to 2×10^{20} cm^{-3} in
solid solutions in which SnTe predominated. A total of 13 different solid-

Card 1/3

L 38540-65

ACCESSION NR: AP5005277

solution compositions were tested by measuring the Hall coefficients, the thermal emf, and the electric conductivity, and by calculating the carrier density and the mobility. At low concentrations there is good agreement between the concentration dependence of the thermal emf and the theoretical curve for one type of carrier with a constant effective mass and with zero value of r (r -- exponent in the power-law energy dependence of the carrier mean free path. This means that in this concentration region ($n \leq 10^{19}$ cm^{-3}) the second band does not influence the thermoelectric properties of the alloys. In solid solutions with large SnTe content, the second band begins to be more pronounced and its effect is ...

... in the effective mass upon addition of SnTe. The sharp decrease in mobility, observed when small amounts of SnTe are added (up to 5 mol.%) cannot be attributed to either additional scattering by the tin atoms or by the change in the effective mass. It may be due either to an increase in the interband scattering (due to the change in the mutual placement of the bands) or to a change in the deformation potential, but both hypotheses need further verification. A model of valence band with two types of valleys is proposed for the solid solution.

Card 2/3

L 38540-65

ACCESSION NR: AP5005277

3

"The authors thank L. S. Stil'bans and B. Ya. Moyshes for continuous interest and for a discussion of the results." Orig. art. has: 6 figures and 1 formula.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semi-conductors, AN SSSR)

SUBMITTED: 15Jul64   ENCL: 00   SUB CODE: SS, EM

NR REF SOV: 007   OTHER: 003

Card 3/3

L 8162-66 EWT(1)/EWT(m)/ETC/EWG(m)/EWP(b)/EWP(t)/(T   IJP(c)   RDW/AT/JD
ACCESSION NR: AP5019890   UR/0181/65/007/008/2554/2556

AUTHOR: Stavitskaya, T. S.; Long, V. A.; Yefimova, B. A.

TITLE: Thermoelectric properties of n-PbTe at high temperatures

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2554-2556

TOPIC TAGS: lead compound, telluride, thermoelectric property, electric con-
ductivity, thermal emf, Hall constant, carrier density, carrier scattering, forbid-
den band

ABSTRACT: To extend the range of temperatures and concentrations in which the
thermoelectric properties of n-PbTe are known at present, the authors measured the
electric conductivity, the thermal emf coefficient, and the Hall constant in the
temperature interval 300 — 1000K with the electron concentration varying from 1 x
10^{19} to 1 x 10^{20} cm^{-3}. The measurements were made with single-crystal and poly-
crystalline samples of n-PbTe, the properties of which were practically the same in
the investigated temperature and concentration ranges. The results are shown in
Fig. 1 of the Enclosure. The measurements have shown that, in the investigated re-
gion of temperatures and concentrations, the conductivity is essentially of the im-
purity type. The effective mass has a temperature dependence in the form

Card 1/3   0902 017

L 8162-66
ACCESSION NR: AP5019890

$m^* \sim T^{0.6} - 1.0$. The Hall constant remains practically constant, and the electron mobility varies like $u \sim T^{-3.5}$. The results indicate that the thermal electric properties of strongly alloyed n-PbTe in the temperature interval 100 — 1000K can be explained fully by assuming a single type of carriers and acoustic scattering. The temperature dependence of the effective mass agrees qualitatively with the temperature variation of the width of the forbidden band. Orig. art. has: 2 figures, 1 formula and 1 table.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors AN SSSR) Leningrad

SUBMITTED: 31Mar65   ENC: 01   SUB CODE: SS

NR REF SOV: 004   OTHER: 002
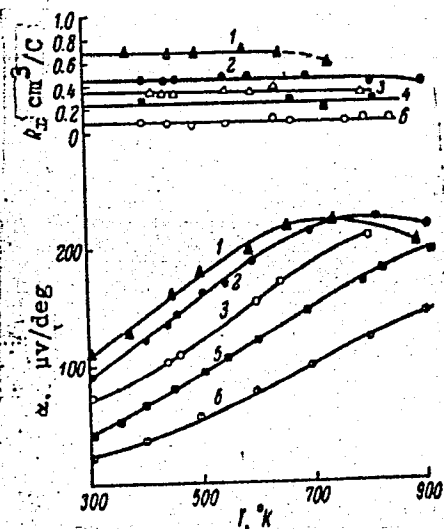
Card 2/3

ENCLOSURE: 01

Fig. 1.   Temperature dependence of Hall coefficients R and thermal
emf α for n-PbTe with different carrier densities

jw

Card 3/3

L 6334-66   EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b)   IJP(c)   RDW/JD

ACCESSION NR: AP5019876   UR/0181/65/007/008/2524/2527

AUTHOR: Yefimova, B. A.; Kaydanov, V. I.; Moyzhes, B. Ya.; Chernik, I. A.

TITLE: On the band model of SnTe

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2524-2527

TOPIC TAGS: tin compound, telluride, electric conductivity, Hall effect, thermo-
electric power, Nernst effect, impurity band

ABSTRACT: By introducing impurities (Sn, Te, Cl) the authors have succeeded in ob-
taining polycrystalline samples of p-SnTe with concentrations at p_{300K}^{*} =
2.8×10^{19} --2.0×10^{21} cm^{-3}, and determine the band model of SnTe for this range
of concentrations, which was not investigated thoroughly in the past. Measure-
ments were made of the electric conductivity, thermoelectric power, Hall constant,
and the isothermal constant of the transverse Nernst-Ettingshausen effect, as well
as the variation of the thermoelectric power in a magnetic field. The authors sug-
gest that the results obtained provide some new evidence of the correctness of the
semiconductor model of SnTe with two valence bands. The anomalously large Nernst-
Ettingshausen effect can then be explained by supplementing this model with an ac-
count of the intraband scattering. Orig. art. has: 2 figures, 1 formula, and 1
table.

Card 1/2   C905 0022

L 6334-66

ACCESSION NR: AP5019876

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

SUBMITTED: 12Mar65   ENCL: 00   SUB CODE: SS

NR REF SOV: 000   OTHER: 006

nw
Card 2/2

ACC NR: AP7002395   SOURCE CODE: UR/0363/66/002/012/2096/2102

AUTHOR: Stavitskaya, T. S.; Long, V. A.; Yefimova, B. A.

ORG: Institute of Semiconductors, Academy of Sciences, SSSR (Institut poluprovodni-kov Akademii nauk SSSR)

TITLE: Thermoelectric properties of n-PbTe at high temperatures

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 12, 1966, 2096-2102

TOPIC TAGS: lead compound, telluride, thermoelectric property, semiconductor carrier, carrier scattering

ABSTRACT: The thermal emf α, electric conductivity σ and Hall effect R were measured over a wide range of temperatures (300-950 °K) and carrier concentrations $(10^{18}-10^{20}$ cm$^{-3})$ on single-crystal and polycrystalline n-PbTe samples. It is shown that in order to account for the properties of n-PbTe up to 950 °K and $n \sim 10^{20}$ cm^{-3}, it is sufficient to consider a single type of carriers, i. e., only the four-ellipsoid model of <111>. For samples with $n \sim 1 \times 10^{19}$ cm^{-3} over the entire temperature range studied, the function $m^*(T)$, where m^* is the effective electron mass, is entirely ac-counted for by the temperature dependence of the forbidden gap width. At higher con-centrations, a certain discrepancy apparently due to the nonparabolicity of the con-duction band is observed between the experimental and theoretical data. The following

Card 1/2   UDC: 546.815'24:541.12.03

ACC NR: AP7002395

results were obtained for the temperature dependences of m* and mobility u at T $500\,°K$:

$$m^* \sim T^{0.6-0.8}, \quad u \sim T^{-3.5}.$$

It is shown that when $T > 500\,°K$, the predominant mechanism of scattering up to
$n \sim 1 \times 10^{20}\ cm^{-3}$ is scattering on acoustic phonons. Authors thank B. Ya. Moyzhes and
L. S. Stil'bans for their steady interest in the work and participation in the dis-
cussion of the results. Orig. art. has: 8 figures, 4 formulas and 1 table.

SUB CODE: 20/   SUBM DATE: 21Jun65/   ORIG REF: 004/   OTH REF: 004

Card 2/2

YERYKALOV, Yu. G.; SPRYSKOV, A. A.; YEFIMOVA, E. M.

Orientation during substitution in the aromatic series.
Part 11: Isomerization of trichlorobenzenes. Zhur. ob. khim.
32 no.12:4025-4028 D '62.   (MIRA 16:1)

1. Ivanovskiy khimiko-tekhnologicheskiy institut.

(Benzene)   (Isomerization)

FEL'ZENBAUM, V.G.; YEFIMOVA, E.P.

Urgent objectives in the expansion of the soft roofing
materials industry. Stroi.mat. 6 no.4:3-6 Ap '60.
(MIRA 13:6)

(Roofing)

YEFIMOVA, E.P.

Means of lowering the cost of manufacturing asbestos cement
products. Stroi. mat. 9 no.8:8-10 Ag'63.   (MIRA 17:5)

SIMONAVICHENE, K.[Simonaviciene, K.]; KANTSLERIS, A.[Kancleris, A.],
    otv. za vypusk; KURIS, A., inzh., spets. red.; ABROMATIYENE,Kh.
    [Abromaitiene, H.], red.; YEFIMOVA, F., red.; PILKAUSKAS, K.,
    tekhn. red.

[Mechanization and automation of production processes in the wood-
working industries; bibliographical index] Medzio apdirbimo pramones
gamybos procesu mechanizavimas ir automatizavimas; bibliografine
rodykle. Vilnius, 1961. 117 p.   (MIRA 15:4)

1. Lithuanian S.S.R. Liaudies ukio taryba. Centrine moksline-
technine biblioteka, Vilna.
    (Bibliography--Woodworking industries)
    (Bibliography--Automatic control)

SEMENOV, A.G.; YEFIMOVA, F., red.

    [Progressive methods of welding and cutting of metals;
materials of the 3d and 4th Republic Conference of
Lithuanian Welders] Progressivnye metody svarki i rezki
metallov; materialy III i IV respublikanskikh konferentsii
svarshchikov Litvy. Vil'nius, 1963. 231 p.

                                  (MIRA 17:12)

    1. Respublikanskaya konferentsiya svarshchikov Litvy.

YEFIMOVA, F.V.; PETROV, M.I.

Hypotensive effect of preparations from the coltsfoot Tetasites officinalis (L.). Farm.i toks. 29 no.3:292-294 My-Je '65.

(MIRA 18:8)

1. Kafedra farmakognozii (zav. - dotsent D.A.Murav'yeva) i kafedra farmakologii (zav. - prof. S.D.Sokolov) Pyatigorskogo farmatsevtiche-skogo instituta.

YEFIMOVA, F.V.; MURAV'YEVA, G.A.

Study of the chemical composition of the Petasites species
of the Northern Caucasus. Apt. delo 14 no.5:41-44 S-O '65.
(MIRA 19:1)

1. Pyatigorskiy farmatsevticheskiy institut.

YEFIMOVA, F. Ye.

6230. Petrova, M. I. i Yefimova, F. Ye. Rekomendatel'nyy katalog
sol'skoy i kolkhoznoy biblioteki. Knigi, izd. Chuvashgosizdatom.
Cheboksary, chuvashgosizdat, 1954. 216 s. 23 sm. (chuvash. resp. B-ka
im. M. Gor'kogo) 1500 ekz. 6r. 60k. V per.- Sost. ukazany na oborote
tit. L. na chuvash. yaz.
    V pril: Skhemy otdelov desyatichnoy klassifikatsii. (Na rus. yaz.)--
Avtorskiye tablitsy. (Na chuvash.yaz.)--Pravila Pol'zovaniya avtorskimi
tablitsami. (Na Rus. yaz.)- /54-50927/ 016+027.5 (-22)

SO: Knizhamya Letopis' 1, 1955

DANILOV, S.N.; TIKHOMIROVA-SIDOROVA, N.S.; USTYUZHANIN, G.Ye.;
    YEFIMOVA, G.A.

Cleavage of an anhydride ring in dianhydroxylitol by amines.
Zhur.ob.khim. 32 no.11:3614-3618 N '62.   (MIRA 15:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
        (Xylitol)   (Anhydrides)   (Amines)

DANILOV, S.N.; TIKHOMIROVA-SIDOROVA, N.S.; USTYUZHANIN, G.Ye.;
YEFIMOVA, G.A.

Cleavage of an anhydride ring in dianhydroxylitol by amines.
Zhur.ob.khim. 32 no.11:3614-3619 N '62.   (MIRA 15:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
        (Xylitol)   (Anhydrides)   (Amines)

YEFIMOVA, G.A.; USTYZHANIN, G.Ye.; TIKHOMIROVA-SIDOROVA, N.S.;
DANILOV, S.N.

Reactions of 2-tosyl-1,4-3,5-dianhydroxylite with amines.
Zhur. ob. khim. 33 no.5:1429-1431 My '63.   (MIRA 16:6)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
        (Xylitol)   (Toluenesulfonic acid)
                    (Amines)

USTYUZHANIN, G.Ye.; YEFIMOVA, G.A.; KOGAN, E.M.; TIKHOMIROVA-SIDOROVA, N.S.;
    DANILOV, S.N.

Cleavage of an anhydride ring in dianhydroxylitol and its
derivatives by hydrogen chloride in glacial acetic acid.
Zhur.ob.khim. 32 no.11:3617-3621 N '62.   (MIRA 15:11)

1.   Institut vysokomolekulyarnykh soyedineniy AN SSSR.
        (Xylitol)   (Anhydrides)   (Hydrochloric acid)

ZBOROVSKIY, A.B., dotsent; BELYAKOVA, A.A.; YEFIMOVA, G.F.

Clinical tests of nitrosarbide in coronary disease. Vrach. delo
no.6:36-39 Je '61.   (MIRA 15:1)

1. Kafedra gospital'noy terapii (zaveduyushchiy - dotsent A.B.
Zborovskiy, nauchnyy rukovoditel' - prof. I.V.Vorob'yev). Stalin-
gradskogo meditsinskogo instituta i tret'ye bol'nichno-poliklinicheskoye
ob"yedineniye.
          (CORONARY HEART DISEASE)   (SORBITOL)

YEFIMOVA, G.M.

KUSHELEVSKIY, B.P., professor; YASAKOVA, O.I., kandidat meditsinskikh nauk;
YEFIMOVA, G.M.

Dicumarin therapy of miocardial infraction; second report. Sov.med. 17 no.10:
10-15 0 '53.   (MLRA 6:10)

1. Fakul'tetskaya terapevticheskaya klinika Sverdlovskogo meditsinskogo
instituta. 2. 1-ya gorodskaya klinicheskaya bol'nitsa.
                                          (Heart--Infraction)

YEFIMOVA, G.M.

KUSHELEVSKIY, B.P., professor; YASAKOVA, O.I., kandidat meditsinskikh
nauk; YEFIMOVA, G.M.

Functional evaluation and prognosis of the capability for work in
patients with myocardial infarct. Report No.3. Sov. med. 18 no.12:
19-21 D '54.   (MLRA 8:2)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav.-prof. B.P.Kushe-
levskiy) Sverdlovskogo meditsinskogo instituta.
        (MYOCARDIAL INFARCT, physiology
            working capability in)
        (WORK
            capacity determ. in myocardial infarct)

YEFIMOVA, G-M.

EXCERPTA MEDICA Sec.6 Vol.10/12 Internal Medicine D'56

7344. EFIMOVA G.M. *The early diagnosis and treatment of
rheumatic coronary arteritis (Russian text) SOVETSK. MED.
1955, 12 (40-46) Graphs 3

A report on 30 adult patients with rheumatic coronary arteritis is presented. The
diagnosis was made during the onset of the first attack or of a relapse of acute
rheumatic fever with pains in the heart region. With regard to clinical picture and
ECG the patients were divided into 2 groups: the 1st with myocardial infarction and
the 2nd with angina pectoris. In the first group were 4 patients aged 20-30 yr. in a
severe state during the onset of a relapse of rheumatic fever with clinical signs and
ECG characteristic of infarction. Two of these patients had cardiac asthenia and
pulmonary oedema. After bedrest for 5 weeks and treatment with 6.0-7.0 g. of
sodium salicylate or 3-4 g. of aspirin daily, cardiotonics, etc., a general impro-
vement was seen, the fever and blood changes disappeared and after 2.5-3.5 months
the ECG returned to normal. The 2nd group included 26 patients with a clinical
picture and ECG of coronary artery insufficiency. In 6 of them the ECG changes
suggested myocardial infarction, which was not confirmed by the clinical picture.
Pains and changes of blood and ECG disappeared after treatment with salicylates
and bedrest for 2-3 weeks.   Koszarska - Szczecin

1. Iz Fakul'Tetskoy Terapevticheskoy
Kliniki (prof. 3 P. Koshelevskiy) Sverdlov.
meditsinst. / G. Rodskoy Klinicheskoy
Bol.

YEFIMOVA, G.V.

YEFIMOVA, G.V.: "Investigation of the natural movements of stars in the region
    of Orion". Leningrad, 1955. Acad Sci USSR, Main Astronomical Observatory.
    (Dissertations for the Degree of Candidate of Physicomathematical Sciences).

SO: Knizhnaya letopis' No 45, 5 November 1955. Moscow.

YEFIMOVA, G.V.; MARKOVICH, A.V.

    Determination of griseofulvin and 6-demethylgriseofulvin in
    the urine by a spectrophotometric method. Vop. med. khim.
    9 no.4:429-434 Jl-Ag'63   (MIRA 17:4)

    1. Nauchno-issledovatel'skiy institut antibiotikov, Leningrad.

KAMYSHKO, O.P.; TSYGANOV, V.A.; YEFIMOVA, G.V.

Method for determining the antagonistic activity of soil fungi.
Eksp. i klin. issl. po antibiot. 2:27-30 '60.   (MIRA 15:5)
                        (FUNGI IMPERFECTI)

YEFIMOVA, G.V.; MARKOVICH, A.V.

Spectrophotometric determination of griseofulvin in mycelia.
Antibiotiki 9 no.7:592-595 Jl '64.

(MIRA 18:3)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.

YEFIMOVA, G.V.; MARKOVICH, A.V.

Effect of dispersion properties of griseofulvin on the renal
excretion of griseofulvin and 6-dimethylgriseofulvin. Anti-
biotiki 9 no.9:818-821 S '64.   (MIRA 19:1)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.

KAMYSHKO, O.P.; YEFIMOVA, G.V.; MALYSHKINA, M.A.

Antibiotically active fungus, Penicillium proteolyticum Kamishko.
Eksp. i klin. issl. po antibiot. 2:37-40 '60.   (MIRA 14:5)
                        (PENICILLIUM)

YEFIMOVA, G.V.; MARKOVICH, A.V.; SHENIN, Yu.D.

Separation and identification of substances accompanying
griseofulvin. Zhur. ob. khim. 34 no.11:3842-3843 N '64
(MIRA 18:1)

1. Nauchno-issledovatel'skiy institut antibiotikov, Leningrad.

DANILOV, S.N.; TIKHOMIROVA-SIDOROVA, N.S.; USTYUZHANIN, G.Ye.;
      YEFIMOVA, G.Ye.; KOGAN, E.M.

New data on the structure of xylitol dianhydride. Zhur.ob.
khim. 32 no.2:656-657 F '62.   (MIRA 15:2)

1. Institut vysokomolekulyarnykh soyedineniy.
                        (Xylitol)

YEFIMOVA, I.A.

Prepare drugs of high quality and quickly. Zdrav. Belor. 6 no.9:
47-49 S '60.   (MIRA 13:9)

1. Upravlyayushchaya Bobruyskoy aptekoy No 75.
                        (PHARMACY)

ETTINGER, I.L.; AFANAS'YEVA, A.I.; YEFIMOVA, I.N.

Effect of contact metamorphism on the sorption properties of
Noril'sk coals. Gor. i ekon. vop. razrab. ugol'. i rud. mest.
no.1:241-246 '62.   (MIRA 16:7)
           (Noril'sk region--Coal) (Sorption)

YEFIMOVA, I.S.

Hydrographic characteristics of the upper section of the Buzuluk
Basin and its artificial bodies of water. Trudy Lab. ozerovod.
9:30-41 '60.   (MIRA 13:8)
        (Buzuluk Valley (Stalingrad Province)—Farm ponds)

YEFIMOVA, I.S.

Convective heat exchange over the Polivnoy Pond in 1955. Trudy
Lab. ozeroved. 9:270-299 '60.   (MIRA 13:8)
        (Vyazovka District (Stalingrad Province)—Farm ponds)
                        (Hydrometeorology)

24(6)   SOV/181-1-10-4/21
AUTHORS: Davidenkov, N. N., Yefimova, I. S.

TITLE: Effect of the Surface State on Cold-brittleness

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 10,
              pp 1516 - 1520 (USSR)

ABSTRACT: On the basis of studies by Western authors and, in particular,
              by A. F. Ioffe and A. V. Stepanov the authors investigated
              the fracture of Mo samples with different surface states for
              a special case. Cylindrical samples 7-10 mm thick and 55-70 mm
              long were annealed at 1650°C vacuum (10^{-3} torr) for 4 h before
              and after the surface treatment. The samples were treated 1)
              by means of a lathe steel and 2) by grinding with a stone.
              The critical temperature of brittleness was measured on a
              GZIP impact machine at a striking velocity of 3.8 m/sec. The
              cold-brittleness was determined from the low-temperature
              flexure of the sample. Results of measurement have indicated
              the following: The critical temperature of cold-brittleness
              of samples treated according to 2) is lower by 35°C on the
Card 1/2   average than that of samples treated according to 1). At the

Effect of the Surface State on Cold-brittleness   SOV/181-1-10-4/21

boiling point of nitrogen, the brittle strength of samples
treated according to (2) is 57.2 kg/mm^2; for those treated
according to (1) it is 46.1 kg/mm^2. The yield limits measured
in the temperature range -195 and +205°C are equal for both
states ((1) and (2)). At -195°C, the yield limit was higher
by 2.5 times (in compression) than brittle strength (in rup-
ture). This indicates that the brittleness does not result
either from tangential stress or the rupture normal. The posi-
tion of the critical temperature of the semiconductor samples
and, consequently, the scheme worked out by A. F. Ioffe con-
firmed by taking into account the increase in the yield limit
under the influence of striking velocity. There are 1 figure,
2 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut AN SSSR (Leningrad
              Institute of Physics and Technology of the AS USSR)

SUBMITTED: January 10, 1959

Card 2/2

POPYRIN, L.S., kand.tekhn.nauk; YEFIMOV, N.T., inzh.; TARANOV, A.G., inzh.;
    YEFIMOVA, I.S., inzh.

Selection of optimum design paramters and networks for connecting
regenerative heaters of large condensing electric power plants.
Elek.sta. 34 no.2:20-26 F '63.   (MIRA 16:4)
            (Boilers)   (Steam power plants)

SIVERTSEV, G.N., doktor tekhn.nauk, prof.; NIKITIN, L.V., inzh.;
LVOV., L.V., mladshiy nauchnyy sotrudnik

Study of the hardening processes in "cold" concrete. Trudy
NIIZHB no.18:5-77 '60.   (MIRA 14:10)
                    (Concrete)

L 62517-65

ACCESSION NR: AP5018797

UR/0217/65/010/004/0586/0594

577.3

30
B

AUTHOR: Yefimova, I. V.; El'piner, I. Ye.

TITLE: Effect of ultrasonic waves on the structure and biological activity of the polypeptide type of antibiotics (polymyxin M)

SOURCE: Biofizika, v. 10, no. 4, 1965, 586-594

TOPIC TAGS: antibiotic, ultrasonic wave, microbiology, amino acid

ABSTRACT: Solutions of polymyxin M exposed to ultrasonic waves in the presence of argon or nitrogen were broken down into a larger number of molecular fragments interacting with ninhydrin than when exposed in the presence of oxygen (according to chromatographic and electrophoretic studies). More peptide bonds were broken in the presence of argon than in the presence of oxygen. Hydrolysates of the solutions sonicated in the presence of argon, nitrogen, or oxygen contained α-monoaminobutyric acid, leucine, threonine, and α, γ-diaminobutyric acid. There were scarcely any chemical changes in polymyxin M sonicated in the presence of hydrogen. The structural changes in the antibiotic paralleled impairment of its biological activity (as

Card 1/2

L 62517-65

ACCESSION NR: AP5018797

tested on a 20-hour culture of *Brucella bronchiseptica*). Polymyxin M lost almost all of its antibiotic activity when sonicated in the presence of argon or nitrogen. It lost much less activity if sonicated in the presence of oxygen; it retained almost all of its activity if sonicated in the presence of hydrogen. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR, Moscow (Institute of Biophysics, AN SSSR)

SUBMITTED: 04Nov64   ENCL: 00   SUB CODE: LS

NO REF SOV: 011   OTHER: 000

Card 2/2

YEFIMOVA, K.

661. U nashey stolovoy. (Labachnaya fabrika "Yova" Zapisal i lk. obrabgial M.
Kelchevskiy M.) Profizdat, 1954. 68 s. s. plan. 17 sm. (Rasskazy novatorov).
10.000 ekz. 90k. - (54-55200) p 640.245 st. (47.311)

SO: Knizhnaya Letopis, Vol 1, 1955

SIMONOV, Ya.P.; SALEPOVA, A.I.; SMIRNOVA, A.I.; SYRTSOVA, Ye.M.; MIKHAYLOVA,
A.D.; YEFIMOVA, K.A.; MOROZ, V.F.; GUK, Yu.I.; NIKOLAYEVA, Z.A.;
AYZENBERG, M.M.; MIKHAYLOVA, K.L.; ROGOVSKAYA, Ye.G., red.;
VOLKOV, N.V., tekhn.red.

[Agroclimatic reference book on Nikolayev Province] Agroklima-
ticheskii spravochni. so Nikolaevskoi oblasti. Leningrad, Gidro-
meteor.izd-vo, 1959. 103 p.   (MIRA 13:2)

1. Kiyev. Gidrometeorologicheskaya observatoriya. 2. Nachal'nik
otdela agrometeorologii Kiyevskoy gidrometeorologicheskoy observa-
torii (for Salepova).
          (Nikolayev Province--Crops and climate)

S/186/60/002/006/008/026
A051/A129

AUTHORS: Vdovenko, V. M.; Yefimova, K. I.; Chaykhorskiy, A. A.

TITLE: An investigation of the complex-formation in non-aqueous solutions
             II. The system water-butylacetate-benzene.

PERIODICAL: Radiokhimiya, v. 2, no. 6., 1960, 675 - 681

TEXT: The authors deal with the method for determining the hydration
number of the extracted substance in the organic and water phase on the example
of the water-butylacetate-benzene system. The possibility is shown by using the
general distribution equation in a slightly different form for this purpose.
The experimental investigation of the interaction of n-butylacetate with water
in an aqueous solution and benzene medium within the range of the butylacetate
concentration of up to 1.72 M (10 %) showed that butylacetate forms with water
molecular structures of the BA · H_2O composition at an equilibrium constant equal
to 0.99 ± % % in benzene and aqueous solutions within the given range. The ex-
perimental results were checked by the general distribution equation:

Card 1/3

$$s_0 = \frac{c_0}{c_W^n} \quad (1) \text{ and changes to: } \quad s_0 = \frac{c_0^p f_0^p}{c_W^q f_W^q} \quad (2)$$

where c_0 and c_W are the concentrations of the distributed substance in the organic and water phases, f_0 and f_W the corresponding activity coefficients, p and q the degrees of polymerization of the distributed substance in the organic and water phases. It is assumed that if water forms compounds in both phases with butyl-acetate, then their compositions would be: in the organic phase: $BA \cdot (H_2O)_2$, in the aqueous phase $BA \cdot (H_2O)_y$. The activity of water in salt solutions was also calculated from table data of osmotic coefficients (Ref. 4: R. A. Robinson, R. H. Stokes. Trans Farad. Soc., 45, 7, 612, 1949 and Ref. 5: R. H. Stokes, Trans. Farad. Soc. 44, 5, 295, 1948). The activity coefficients in the organic phase was calculated from the formula:

$$f_0 = \frac{a_0^{\alpha} (H_2O)_W}{[H_2O]_0} \quad (5)$$

Card 2/8

An investigation of the complex-formation ....

where f_0 is the average activity coefficient of water in the organic phase, $a_{(H_2O)_W}$ the water activity in the aqueous solution, $[H_2O]_0$ the water concentration in the organic phase, a_0 the coefficient of (thermodynamic) distribution of water between benzene and water equal to $5.56 \cdot 10^{-4}$. The activity of water in benzene solutions containing 0.216, 0.360, 0.504 and 0.720 M butylacetate was determined in a similar manner. The degree of polymerization of water in the aqueous and benzene phases is the same. These data led to the conclusion that water forms a compound with butylacetate containing one water molecule: in the organic phase $(BA)_y \cdot H_2O$, in the water phase $(BA)_y \cdot H_2O$. Since this conclusion is considered only qualitative, an investigation of the chemical equilibrium taking place in the water and organic phases was made. Assuming that the increase in the water solubility in benzene with an increase of the butylacetate concentration is associated with the formation of the compound $(BA)_n (H_2O)_m$, the following equation is derived:

$$K_0 = \frac{\frac{1}{m}\left(\Sigma H_2O - [H_2O]_0\right)}{[H_2O]_0^m \left[\Sigma BA - \frac{1}{m}\left(\Sigma H_2O - [H_2O]_0\right)\right]^n} \tag{6}$$

Card 3/8

where ΣH_2O and $[H_2O]_0$ are the general and equilibrium concentrations of water in the organic phase, Σ BA is the general concentration of butylacetate in the organic phase, n and m is the number of molecules of the components, constituting part of the complex. After transformation and taking the logarithm of (6) for the value of n=1:

$$lg\ (\Sigma H_2O - [H_2O]_0) = lg\ \Sigma BA + lg\ \frac{m\ K_0[H_2O]_0^m}{1 + K_0[H_2O]_0^m} \qquad (7)$$

from where the function is derived:

$$\varphi = \frac{\Sigma H_2O - [H_2O]_0}{\Sigma BA} = \frac{m\ K_0\ [H_2O]_0^m}{1 + K_0[H_2O]^m} = const. \qquad (8).$$

At n = 1 the function is a constant value. A method is derived for determining the number of hydration of the organic component in the organic phase for the

Card 4/8

An investigation of the complex-formation ...

case, when the value of the product $K[H_2O]_0^m \ll 1$: $\varphi_1 = mK_0[H_2O]_{01}^m$,

$\varphi_2 = mK_0[H_2O]_{02}^m$. Dividing φ_2 by φ_1 and transforming to logarithms the following equation is derived:

$$m = \frac{\lg \varphi_2 - \lg \varphi_1}{\lg[H_2O]_{02} - \lg[H_2O]_{01}} \qquad (9),$$

where $[H_2O]_{01}$ and $[H_2O]_{02}$ are the equilibrium water concentration in the organic phase for various series of experiments. A similar principle is used to prove the formation of the BA · H_2O compound in an aqueous solution. Using the relation

$$\lambda_{H_2O} = \frac{a_{(H_2O)_0}}{a_{(H_2O)_W}},$$

Card 5/8

An investigation of the complex-formation ....

$$\alpha_{BA \cdot H_2O} = \frac{a_{(BA \cdot H_2O)_O}}{a_{(BA \cdot H_2O)_W}} ,$$

$$\alpha_{BA} = \frac{a_{(BA)_O}}{a_{(BA)_W}}$$

where a_{H_2O}, $a_{BA \cdot H_2O}$ and a_{BA} are the distribution coefficient of the correspond-

ing components, the following equation is derived:

$$\frac{\alpha_{BA \cdot H_2O}}{\alpha_{H_2O}^m \cdot \alpha_{BA}^n} K_B = \frac{a_{(BA \cdot H_2O)_O}}{(H_2O)_O^m (BA)_O^n} \tag{10},$$

where K_B is the equilibrium constant of $BA \cdot H_2O$ in the aqueous solution. If

Card 6/8

S/186/60/002/006/008/026
A051/A129

An investigation of the complex-formation ....

n = 1 and m = 1 as established above, it is concluded that a BA · H_2O compound is formed in the aqueous solution, proven previously from the analysis of the general distribution equation (4). Combining (6) and (10):

$$K_B = K_0 \frac{\alpha_{H_2O} \alpha_{BA}}{\alpha_{BA \cdot H_2O}} \quad (11) \quad \text{or by another method: } K_B = \frac{\frac{(\Sigma BA)_W}{[BA]_0} \alpha_{BA} - 1}{55.51} \quad (12)$$

and also

$$K_B = \frac{1}{55.51 \frac{(\Sigma BA)_W}{[BA \cdot H_2O]_0}} \quad (13)$$

If a_{BA} or $a_{BA \cdot H_2O}$ are known, K_B can be calculated. There are 2 tables, 4 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The references to the English language publications read as follows: Katzin, L; J. Sullivan,

Card7/8

An investigation of the complex-formation ...

S/186/60/002/006/008/026
A051/A129

J. Phys. collid chem., 55, 3, 346, 1951; R. A. Robinson a. R. H. Stokes, Trans. Farad. Soc., 45, 7, 612, 1949; R. H. Stokes Tans. Farad.Soc., 44, 5, 295, 1948.

SUBMITTED: January 20, 1960.

Card 8/8

AUTHORS: Chaykhorskiy, A.A., Vdovenko, V.M., Yefimova, K.I. and Belov, L.M.

TITLE: On the Investigation of the Formation of Complexes in Non-Aqueous Solutions.   III. The Determination of Thermodynamic Characteristics of Systems: Water-Tributylphosphate-Benzene and Water-Butylacetate-Benzene

TEXT: The mechanism of the distribution of water between aqueous and organic phases in the above systems was investigated previously (Ref.6: V.M.Vdovenko, L.M.Belov, A.A.Chaykhorskiy, Radiokhimiya, 1, 4, 439 (1959); and Ref.7: V.M.Vdovenko, K.I.Yefimova and Chaykhorskiy, Radiokhimiya, 2,6,675 (1960)).
It was then found that in aqueous and organic phases of the above system, in the range of concentration of the organic component of up to 10%, molecular compounds of the composition TBPh·H_2O and BA·H_2O (TBPh-tributylphosphate; BA - butylacetate) are formed.
On the basis of data on the distribution of water between the phases, the equilibrium constants for the above compounds in the organic phase at 20°C were calculated.   In the present paper the
Card 1/3

On the Investigation of ...

S/186/61/003/003/008/018
E071/E435

results of an investigation of the chemical equilibrium in the organic phase of the above system at 6, 13 and 20°C are reported and, on the basis of these data, complete thermodynamic characteristics of the reaction of formation of TBPh·H_2O and BA·H_2O as well as of the process of distribution of water between water and benzene were calculated. The results obtained indicated that the process of formation of complexes TBPh and BA with water are exothermic, the values of enthalpies are practically equal ($\Delta H° = -3.84 \pm 4\%$ and $-3.13 \pm 6\%$ k cal/mole for TBPh·H_2O and BA·H_2O respectively) while the isobar potentials differ by one order ($\Delta ZT - 1.41 \pm 2\%$ and $0.0546 \pm 3\%$ kcal/mole, respectively) which indicated that the stability of TBPh·H_2O is higher than that of BA·H_2O. The process of solution of benzene in water is endothermic ($\Delta H° = 5.19 \pm 6\%$ kcal/mole). The numerical value of the heat of the solution of benzene in water is higher than the heat effect of the reaction of the above complexes. Thus, despite the reaction of formation of complexes being exothermic, the overall process of the solution of water in a benzene solution of TBPh or BA remains endothermic. There are 5 figures, 5 tables and 8 references: 4 Soviet-bloc and 4 non-Soviet-bloc. The four references to

Card 2/3

On th· Investigation of ...

S/186/61/003/003/008/018
E071/E435

English publications read as follows: E.Gluecauf, H.A.C.McKay and
A.R.Mathieson, Trans.Farad.Soc., 47, 5, 437 (1951);
A.W.Gardner and H.A.C.McKay, Trans.Farad.Soc., 48,12,1099 (1952);
H.A.C.McKay, Trans.Farad.Soc., 47,12,1103 (1952);
T.H.Siddell, J.Am.Chem.Soc., 81,16,4176 (1959).

SUBMITTED: May 16, 1960

Card 3/3

YEFIMOVA,   K. V.

USSR / Microbiology. Microbes Pathogenic to Man and   F-5
        Animals. General Problems.

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72075.

Author : Yefimova, K. V.
Inst   : Not given.
Title   : Semiliquid Medium in Laboratory Diagnosis of
          Infected Diseases. Report I. Use of Semi-
          liquid Alkaline Agar for Obtaining Homocultures
          During Typhoid Fever.

Orig Pub: Labor. delo, 1957, No 5, 36-38.

Abstract: For obtaining hemocultures, the blood of 62 ty-
          phoid patients was inoculated into a semiliquid
          alkaline agar prepared with the addition of 0.1%
          agar to a 10% alkaline broth. Blood inoculations
          in a 10% alkaline broth served as the control.
          1.6 ml of blood was inoculated into each medium

          Chair of microbiology, Kuybyshev Med Inst.

Card 1/2

34

F-5

USSR / Microbiology. Microbes Pathogenic to Man and
Animals. General Problems.

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72075.

Abstract: divided at 1, 0.5 and 0.1 ml. In some patients,
blood was taken two and three times. 82 inocu-
lations were made in all. A homoculture was
isolated in 37% of the total number of patients
and 28% of the total quantity of analyses. The
author explains the low percentage of positive
results in comparison with data of the litera-
ture by the fact that the patients entered the
clinic after treatment with antibiotics. The
greatest quantity of positive results falls on
the first 10 days of illness. The use of this
medium twice exceeded the number of positive
results at those periods of investigation. --
M. Ya. Boyarskaya.

Card 2/2

YEFIMOVA, K. V., Candidate Med Sci (diss) -- "A comparative evaluation of meth-

ods of detecting live causative agent in semiliquid media and its antigenic sub-

stances by the precipitation reaction and fixation of the complement". Kuybyshev,

1959. 15 pp (Kuybyshev State Med Inst, Chair of Microbiology), 220 copies

(KL, No 25, 1959, 140)

YEFIMOVA, K.V.

Semifluid media in the laboratory diagnosis of infectious diseases.
Report no.2: Use of semifluid enrichment cultures for producing
coprocultures in dysentery. Lab. delo 5 no.3:45-47 My-Je '59.
(MIRA 12:6)

1. Iz kafedry mikrobiologii (zav. - prof. S.I. Boryu) Kuybyshevskogo
meditsinskogo instituta.
(BACTERIOLOGY--CULTURES AND CULTURE MEDIA)
(DYSENTERY)

YEFIMOVA, I., mladshiy nauchnyy sotrudnik

Chlorophos and entobacterin for vegetable crops. Zashch. rast.
ot vred. i bol. 10 no.7:15-16 '65.
(MIRA 18:10)

1. Pushkinskaya baza Vsesoyuznogo nauchno-issledovatel'skogo
instituta zashchity rasteniy.

L 58..9-65   ...(e)/...(m)/...i)/...(t)/... (+)/...(p)/...z/...
Pq-4/... f-4   AJ4/3../nn/HW
ACCESSION NR: AP5615804   UR/0129/65/000/006/0044/0045
                                             666.127:621.73.032'034

AUTHOR: Yefimova, L. B.; Kozlov, A. I.

TITLE: Heating of steel billets in molten glass

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 6, 1965, 44-45,
and bottom half of insert facing p. 25

TOPIC TAGS: steel heating, molten glass

ABSTRACT: Specimens of steel 45 (AISI-1045) were heated up to 1160—1200C in a
molten glass bath (crushed window glass), a molten salt $BaCl_2$, or in a flame gas
furnace in order to determine which method produces steel forgings with a minimum
of scale and decarbonization.   The decarbonization and grain size of specimens
heated in molten glass or molten salt were similar, but the decarbonized layer of
specimens heated in a gas furnace was 2.5—3 times thicker.   The surface of specimens
heated in molten glass becomes bright and is coated by glass film which protects it
from scale formation during transportation and cooling.   This glass film can be
utilized as a lubricant during forging in order to increase the service life of dies.
These advantages make possible maximum decrease allowances for machining, reduce cost
and improve sanitary conditions.   Orig. art. has: 2 figures and 1 table.   [AZ]
Card   1/2

L 58379-65
ACCESSION NR: AP5015804

ASSOCIATION: Gor'kovskiy politekhnicheskiy institut (Gorky Politechnical Institute)

SUBMITTED: 00   ENCL: 00   SUB CODE: MM

NO REF SOV: 001   OTHER: 000   ATD PRESS: 4047

Card 2/2

YEFIMOVA, L.F.

USSR/Chemical Technology - Chemical Products and Their
        Application. Pesticides   I-4

Abs Jour   : Ref Zhur - Khimiya, No 1, 1958, 2323

Author   : Paydin, D.M., Shabanova, M.P., Gamper, N.M., Yefimova, L.F.

Inst   : All-Union Institute of Plant Protection

Title   : Insecticidal Properties of Diethyl-(Ethylmercapto)-Ethyl-
              Dithiophcsphate (Preparation M-74).

Orig Pub   : Tr. Vses. in-ta zashchity rast., No 7, 78-86, 1957

Abstract   : 0,0-diethyl-S-(beta-ethylmercaptoethyl)-dithiophosphate
              (M-74) induces 95-100% mortality of the bugs Eurygaster
              integriceps Put. (EI), at a concentration of $5 \cdot 10^{-4}\%$,
              of mealybugs Pseudococcus mortimus Ehrh., at a concentra-
              tion of $5 \cdot 10^{-3}\%$; thiophos -- at concentration of $5 \cdot 10^{-3}$
              and $2.5 \cdot 10^{-2}$, respectively, and mercaptophos at concentra-
              tion above $5 \cdot 10^{-2}$ and $1.5 \cdot 10^{-2}\%$. Treatment of wheat

Card 1/2

USSR/Chemical Technology - Chemical Products and Their
      Application. Pesticides.   I-4

Abs Jour   : Ref Zhur Khimiya, No 1, 1958, 2323

grain with 1.5 and 1.2% emulsion of M-74 produces 80%
kill of EI one month after the treatment. Also investi-
gated was the effect of M-74 on the pests of maize Agrio-
tes obscurus S., Agriotes sputator L., Oscinella frit L.;
on the red spider Metatetranychus ulmi Koch., on apple
trees; the plum aphid Hyalopterus prumi F., on plum trees
and on Prunus divaricata; and on the web-spinning mite
Tetranychtus sp., on roses and lemon trees.

Card 2/2

KABACHNIK, M.I.; MASTRYUKOVA, T.A.; POLIKARPOV, Yu.M.; PAVKIN. D.M.;
SHABANOVA, M.P.; GAMPER, N.M. ;YEFIMOVA, L.F.

Organophosphorus insecticides. Some analogues of O, O-diethyl $-\beta-$
ethylmercaptoethyldithiophosphate. (M-74), less toxic for the
warmblooded. Dokl. AN SSSR 109 no.5:947-949 Ag. 1956.

(MIRA 9:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Kabachnik). 2.Institut
elementoorganicheskikh soyedineniy Akademii nauk SSSR i Vsesoyuznyy
institut zashchity rasteniy Vsesoyuznoy Akademii sel'skokhozyaystven-
nykh nauk imeni Lenina.

(Thiophosphates)

YEFIMOVA, L.F. SHABANOVA, M.P.(VIZR, LENINGRAD)

"Results of Tests of Preparations M-74 and Merkaptofos Against Suctorial Pests in the Garden and Greenhouse" (Rezul'taty ispytaniya preparatov M-74 i merkaptofosa protiv sosushchikh vrediteley v sadu i oranshereye)YEFIMOVA, L.F.

·Chemistry and Uses of Organophosphorous Compounds (Khimiya i primeneniye fosfororganicheskikh soyedneniy), Trudy of First Conference, 8-10 December 1955, Kazan, pp. Published by Kazan Affil. AS USSR, 1957

514-517,

YEFIMOVA, L.F., PAYKIN, D.M., SHABANOVA, M.P. GAMPER, N.M. (VIZR, Leningrad)

"Insecticidal Properties of Some Organophosphorus Compounds" (Insektitsidnyye svoystva nekotorykh fosfororganicheskikh soyedineniy)

YEFIMOVA, L. F.

USSR/General and Special Zoology - Insects.   P.

Abs Jour   : Ref Zhur - Biol., No 7, 1958, 30584

Author   : Paykin, D.M., Shabanova, M.P., Hamper, H.M., Yefimova, L.F.
Inst   : -
Title   : Insecticidal Properties of Certain Organic Phosphorus
              Combinations.

Orig Pub   : V sb.: Khimiya i primeneniye Fosphororgan. soyedineniy.
              M., AN SSSR, 1957, 408-419

Abstract   : The following chemicals were tested for their contact ac-
              tion on the harmful eurygaster and the larvae of the sea
              farinaceous scale insects in the laboratories of the All-
              Union Institute for the Protection of Plants. Twenty
              four ethers of phosphoric and thiophosphoric acids, deri-
              vative ethers of thiophosphoric acid and four disulphides,
              ten ethers of thiophosphoric, dithiophosphoric and thio-
              phosphorous acids (all the above listed combinations were
              less toxic than thiophos), eight ethers of

Card 1/2

USSR/General and Special Zoology - Insects.

P.

Abs Jour   : Ref Zhur - Biol., No 7, 1958, 30584

thionphosphinic acid (they were not less toxic than Gd-18
thiophos and Gd-6 with a group of ethyl-mercapto in B-po-
sition and Gd-5 containing phenyl with a nitrogroup in
P-position), twelve ethers of thiolphosphinic acid (not
less toxic than thiophos Gd-7 with a group of ethylmercap-
to in B-position), nine derivative ethers of dithiophospho-
ric acid (M-0-9 with chlorine in B-position was most toxic)
and nine B-mercaptoalkylic ethers of dithiophosphoric a-
cid (M-74 with ethyl radicals at P and S was more toxic
than thiophos and mercaptophos). The intraplant action on
the eurygaster of five ethers of thiolphosphinic acid
(Gd-7 with a group of ethylmercapto in B-position were the
most active) and of eight B-mercaptoalkylate ethers of
dithiophosphoric acid (M-74 and M-42 were more toxic than
mercaptophos and isosistox) was studied by the method of
presowing moistening of the seeds of spring wheat.

Card 2/2

- 21 -

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 49624

Author   : Shibanova M.P., Yefimova L.F.
Inst   : AS USSR.
Title   : The Results of the Testing of the Preparations
M-74 and Mercaptophos Against Sucking Pests
in the Garden and Conservatory.

Orig Pub : V sb.: Khimiya i primeneniye fosfororgan.
soyedineniy. M., AN SSSR, 1957, 514-517

Abstract : Experiments conducted by the Institute of Plant
Protection have demonstrated that spraying 6-7
year old apple trees with Mercaptophos and M-74
in a 0.05-0.1% concentration, during the period
when the red mite bred from winter eggs, eliminated
the mites from the trees for 49 days. Spraying
with 0.1% emulsions during the mass brooding of

Card   : 1/2

45

USSR/General and Special Zoology. Insects. Injurious In-   P
        sects and Ticks. Pests of Fruit and Berry Crops

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 49624

        mites decreased by 94.7-98.1% the number of the
        pests on the 36th day. The leaves on treated
        trees were dark-green and in the control they
        fell off. The action of the preparations on mites
        did not spread from the sprayed branches to the
        unsprayed. Spraying of prunes with a 0.05%
        emulsion completely freed them of aphids in 27
        days. When roses were sprayed in the conserva-
        tory with 0.08% emulsions, the effect of the pre-
        parations on the spider mites lasted more than
        1$\frac{1}{2}$ months. -- A.P. Adrianov

Card   : 2/2

AUTHORS: Kabachnik, M. I., Godovikov, N. N.,   SOV/79-28-6-30/63
             Paykin, D. M., Shabanova, M. P., Gamper,
             N. M., Yefimova, L. F.

TITLE: Insecticides of Organophosphorus Compounds - Some
             Derivatives of Methylthiophosphinic- and Methyldithio-
             phosphinic Acids (Fosforo·ganicheskiye insektitsidy,
             nekotoryye proizvodnyye metiltiofosfinovoy i
             metilditiofosfinovoy kislot)

ABSTRACT: The majority of phosphorus organic insecticides are
             derivatives of thiophosphoric-, dithiophosphoric- and
             pyrophosphoric acids (Refs 1 - 3). In publications also a
             few insecticides are described which·are derivatives of
             phosphinic- and dithiophosphinic acids; among them are the
             methylphosphinates and methylthiophosphinates. The latter
             contain substituted aryl groups (Ref 4), the ethylxanthoyl-
             group, as well as other groups (Refs 4,5) and the
             0-ethyl-0-p-nitrophenylester of phenylthiophosphinic acid
             ("E.P.N.") (Ref 6). This ester is the only insecticide
Card 1/3

Insecticides of Organophosphorus Compounds - Some   SOV/79-28-6-30/63
Derivatives of Methylthiophosphinic - and
Methyldithiophosphinic Acids

of the series of thiophosphinic acids which is of
practical importance. Therefore it was of interest to the
authors to synthesize derivatives of alkylthio- and
alkyldithiophosphinic acids which have ester groupings
analogous to those of well-known insecticides of thiophos-
phoric- and dithiophosphoric acid. The authors obtained
from the dichloroanhydride of methylthiophosphinic acids
the chloroanhydrides of the acid esters of methyl-
thiophosphinic acid with methoxy-, ethoxy- and propoxygroups.
Derivatives of methylthiophosphinic- and methyldithiophosphinic
acid with groupings corresponding to well-known insecticides
(Tiofos, Metafos, Karbofos, Potazunand Sistoks) were synthesized.
The insecticide properties of the synthesized compounds were
investigated in the laboratory   using the autumn bugs on the
plant "Eurygaster intergriceps Put" as well as the fullgrown
caterpillars on the plant "Fseudococcus maritimus Ehrh".
The insecticide effect of the mentioned synthesized compounds
did not correspond to the activity of the known insecticides

Card 2/3

Insecticides of Organophosphorus Compounds - Some   SOV/79-28-6-50/65
Derivatives of Methylthiophosphinic- and
Methyldithiophosphinic Acids

of thiophosphoric- and dithiophosphoric acids. Only the
preparation Gd-18 (a metaphos. analog) exceeds the effect
of Metafos (Metafos) in its application against the bug
of the first mentioned plant. There are 3 tables and
8 references, 3 of which are Soviet.

SUBMITTED: April 29, 1957

1. Insectidices--Synthesis   2. Phosphorous compounds (organic)
--Synthesis

Card 3/3

YEFIMOU A, L.F

5 (3)
AUTHORS: Labachnik, M. I., Golubevn, Ye. I.,   SOV/79-29-5-50/73
Parkin, D. M., Shabanova, M. P., Gamper, N. M., Taftuovn, L. I.

TITLE: Organophosphorus Insecticides (Fosfororganicheskiye
insektitsidy). Some Esteramides of the Acids of Phosphorus
Containing a-Fluoro-ethyl Groups (Nekotorye efiramidy kislot
fosfora, soderzhashchiye β-ftoretil'nuye gruppy)

ABSTRACT: The compounds formed correspond to the formula type

$$FCH_2CH_2O\diagdown P \diagup O(S) \diagup N(CH_3)_2$$
$$RO$$

The following compounds were produced: methyl-β-fluoro-ethyl-
chloro-phosphate (Ye-40), the corresponding ethyl-(Ye-41),
isopropyl-(Ye-43), and isobutyl-(Ye-45) compounds. Di-β-fluoro-
ethyl-chloro-phosphate (Ye-21), methyl-β-fluoro-ethyl-
diethyl-amidophosphate (Ye-44), the corresponding ethyl-
diethyl-amidophosphate (Ye-45), and isobutyl-([Ye-47] compounds.
(Ye-42), isopropyl-(Ye-45), and isobutyl-diethyl-amidophosphate (Ye-55)).
β-fluoro-diethyl-dimethylamido-thiomephosphate (Ye-55)).

Card 1/2

The preparation is described; boiling temperature, refraction,
density, and composition are presented in tables (tables 1 and
2). The toxic properties were tested with Pseudococous
maritimus Ehr. and Calliphaema itelicra L. The compounds
produced have only a weak insecticidal effect. There are
3 tables and 2 Soviet references.

Card 2/2

· 5 (3)
AUTHORS:

Kabachnik, M. I., Godovikov, N. N.,   SOV/79-29-7-19/83
Paykin, D. M., Shabanova, M. P., Yefimova, L. F., Gamper, N. M.

TITLE:

Organophosphorous Insecticides (Fosfororganicheskiye insektitsidy).
VI. Amidoesters of the Thio- and Dithiophosphoric Acids
Containing a β-Ethyl Mercapto Ethyl Grouping (VI. Amidoefiry
tiofosfornoy i ditiofosfornoy kislot, soderzhashchiye β-etil-
merkaptoetil'nuyu gruppirovku)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2132-2190 (USSR)

ABSTRACT:

In 1936 G. Schrader (Ref 1) discovered the insecticide
properties of the phosphoric- and thiophosphoric acid amides.
The derivatives of the dialkyl amido- and dialkyl amidothio-
phosphoric acid of the type

$$R_2N \diagdown \quad \diagup O(S)$$
$$P$$
$$R'O \diagup \quad \diagdown Ac$$

, where R and R'
denote alkyls and Ac substitutes of acyl character such as Cl,
F, CN, CNO, CH_3COO and others, which he synthesized show
contact insecticide properties of vegetative effect. Other
compounds of similar type with the phenyl- (Refs 1, 2), azide
(Ref 3), and other groups (Refs 4-7) followed. Most of the

Card 1/3

Organophosphorous Insecticides. VI. Amidoesters of   SOV/79-29-7-19/83
the Thio- and Dithiophosphoric Acids Containing a β-Ethyl Mercapto Ethyl
Grouping

insecticides of phosphoric acid have only a weak contact- and
a strong vegetative effect. Some of them are used in practical
applications (Ref 8). On the other hand, it was of interest to
examine this activity in the amido esters of thiophosphoric and
dithiophosphoric acid with a β-ethyl mercapto ethyl grouping
since it could be assumed that they would also show a strong
vegetative activity. These esters have hitherto remained
unknown with few exceptions (Refs 11, 12). The compounds (I),
(II), and (III), the first two of which were obtained as acid
chlorides according to scheme 3, were used as initial products
for these amido esters. In reacting the above acid chlorides
with β-oxydiethyl sulphide in the presence of powder sodium
hydroxide the thiophosphates (Gd-50), (Gd-52), and (Gd-64)
(Scheme 4) resulted. The compounds obtained were isomerized
into the thiophosphates (Gd-53), (Gd-54), and (Gd-66) at
160-170° during 8-10 hours (Scheme 5). Moreover, the thio-
phosphates (Gd-55) and (Gd-56) were synthesized by the reaction
according to scheme 6. The constants and yields of the new
Card 2/3   insecticides are listed in table 1 (details are given in the

Organophosphorous Insecticides. VI. Amidoesters of the   SOV/79-29-7-19/83
Thio- and Dithiophosphoric Acids Containing a β-Ethyl Mercapto Ethyl Grouping

experimental part and in tables 2 and 3). In heating tetra-
methyl diamidochlorophosphate with P_2S_5 tetramethyl diamido-
thiophosphate is formed by replacement of the oxygen atom by
sulphur. Some amido esters such as (Gd-53), (Gd-54), and (Gd-56)
show a vegetative activity against spinning-mites. There are
3 tables and 17 references, 11 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental Organic Compounds of the Academy of
Sciences, USSR)

SUBMITTED: June 20, 1958

Card 3/3

KABACHNIK, M.I.; ROSSIYSKAYA, P.A.; SHABANOVA, M.P.; PAYKIN, D.M.;
    YEFIMOVA, L.F.; CAMPER, N.M.

Phosphoroorganic insecticides. Derivatives of β-dicarbonyl
compounds. Zhur.ob.khim. 30 no.7:2218-2223 Jl '60.
                                      (MIRA 13:7)

1. Institut elementoorganicheskikh soyedineniy Akademii
nauk SSSR.
        (Insecticides) (Phosphorus organic compunds)

MASTRIUKOVA, T.A.; GEFTER, Yu.L.; KAGAN, Yu.S.; PAYKIN, D.M.; SHABANOVA,
    M.P.; GAMPER, N.M.; YEFIMOVA, L.F.; KABACHNIK, M.I.

Phosphoroörganic insecticides. 3-Chlorobutenyl-2-phosphates and
thiophosphates. Zhur. ob. khim. 30 no.9:2813-2816 S '60.
                                                    (MIRA 13:9)

1. Institut elementoorganicheskikh soyedinoniy Akademii nauk SSSR.
                        (Insecticides)

YEFIMOVA, L.F., mladshiy nauchnyy sotrudnik

Comparative evaluation of some acaricides. Zashch. rast. ot vred. i bol. 6 no.5:28 My '61. (MIRA 15:6)

(Insecticides)

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and Application
of Organophosphorus Compounds) A. Yo. Arbuzov, Ed. publ. by Kazan' Affil, Acad. Sci.
USSR, Moscow, 1962   632pp.

    Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of
Organophosphorus Compounds.

ZHUKOVSKIY, S.G.; YEFIMOVA, L.F.; ROZANOVA, A.A., agronom;
LOSEVA, V.G., agronom; RUDENKO, D.K., kand. sel'skokhoz.
nauk; KAPUSTINSKIY, A.F., fitopatolog; MELESHKO, A.I.,
mladshiy nauchnyy sotrudnik

Brief information. Zashch. rast. ot vred. i bol. 8 no.3:24,
53-54 Mr '63.   (MIRA 17:1)

1. Vsesoyuznyy institut zashchity rasteniy (for Zhukovskiy,
Yefimova, Rudenko, Meleshko). 2. Biolaboratoriya karantinnoy
inspektsii UzSSR (for Rozanova, Loseva).

PERSIN, S.A., starshiy nauchnyy sotrudnik; YEFIMOVA, L.F., aspirantka;
YEREMINA, L.K.; TITOVA, R.P.; SHAKIROVA, R.S.

Simultaneous placement of pesticides and fertilizers. Zashch. rau...
ot vred. i bol. 9 no.9:13 '64.
(MIRA 17:11)

1. Vsesoyuznyy institut zashchity rasteniy (for Persin). 2. Nachal'nik
Kirovskogo otryada po zashchite rasteniy (for Yeremina). 3. Novosibir-
skaya stantsiya zashchity rasteniy (for Titova). 4. Starshiy agronom
TSelinogradskoy stantsii zashchity rasteniy (for Shakirova).

PAVLENKO, V.V., nauchnyy sotrudnik; MAKASHINA, G.V., starshiy nauchnyy
sotrudnik; CHERKAVSKIY, O.F.; DAVLETSHINA, A.G. (Tashkent);
YEFIMOVA, L.F. (Tashkent)

Brief news. Zashch. rast. ot vred. i bol. 9 no.12:48-49 '64.
(MIRA 18:4)

1. Botanicheskiy sad i nepropetrovskogo universiteta (for Pavlenko).
2. Kaliningradskaya sel'skokhozyaystvennaya opytnaya stantsiya (for
Makashina). 3. Institut fiziologii rasteniy AN UkrSSR (for Cherkavskiy).